AMENDMENTS TO THE CLAIMS

The listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

1-22.   (Canceled)

23.   (Currently Amended) In a tuning system for tuning to channels of a plurality of different broadcast types including digital broadcasts, a method of efficiently tuning to a channel of one of the broadcast types, the method comprising the following:

an act of the tuning system storing a plurality of service records in a plurality of service spaces of a memory accessible by the tuning system, wherein each service record contains tuning information including a channel identifier for tuning to a channel of one of the plurality of broadcast types;

an act of extracting additional tuning information from one or more digital data streams that are broadcast to the tuning system over one or more digital channels, wherein the additional tuning information is necessary for subsequent tuning to the one or more corresponding digital channels;

an act of storing the additional tuning information in one or more of the service records that correspond to one or more digital channels over which the digital data streams were broadcast;

an act of the tuning system categorizing the plurality of service records into a plurality of service spaces;

upon receiving a user selection of a service space, identifying a correct one of a plurality of tuners to use in tuning to one or more channels that are identified by one or more service records in the selected service space;

an act of the tuning system receiving a channel selection corresponding to a particular one of the service records in the selected service space;

an act of the tuning system accessing the particular one of the service records from the memory, the particular one of the service records including the extracted additional tuning information; and

when the extracted additional tuning information is correct for the selected channel, an act of the tuning system tuning to the selected channel using the tuning information and the extracted additional tuning information, which is retrieved from the one or more service records rather than being re-extracted from the one or more digital data streams, and wherein the extracted additional tuning information would otherwise be required to be re-extracted from the one or more digital data streams to tune into the selected channel; and

when the extracted additional tuning information is incorrect or outdated, unsuccessfully tuning to the selected channel, the tuning being unsuccessful due, at least in part, to the additional tuning information being incorrect or outdated, such that tuning to the selected channel with the additional tuning information is unsuccessful, and in response, updating the service record with updated information and thereafter using the updated information from the service record to successfully tune to the selected channel.

24.   (Original) The method according to Claim 23, wherein the act of the tuning system storing comprises the following:

an act of the tuning system storing information that identifies a tuner in each of the plurality of service records in the memory; and

an act of the tuning system storing information that identifies a channel in each of the plurality of service records in the memory.

25.   (Original) The method according to Claim 23, wherein the act of the tuning system storing comprises the following:

an act of the tuning system accumulating the plurality of service records in the memory.

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26.   (Original) The method according to Claim 25, wherein the act of the tuning system accumulating the plurality of service records comprises the following:

an act of at least one tuner of the tuning system monitoring at least one broadcast type to determine available channels in the at least one broadcast type.

27.   (Original) The method according to Claim 23, wherein the act of the tuning system categorizing the plurality of service records into a plurality of service spaces comprises the following:

for each of the plurality of service records, an act of the tuning system storing a pointer associated with the service record in at least one of the service spaces.

28.   (Previously Presented) The method according to Claim 23, wherein the act of the tuning system categorizing the plurality of service records into a plurality of service spaces further comprises the following:

an act of the tuning system creating a favorites service space for including pointers to service records that correspond to service records included in at least one other service space corresponding to a particular broadcast type, and such that a viewer can select the channel from the favorites service space.

29-39. (Canceled)

40.   (Previously Presented) A computer program product for use in a tuning system for tuning to channels of a plurality of different broadcast types including digital broadcasts, the computer program product comprising computer-readable media having computer-executable instructions for implementing the method recited in claim 23.

41.   (Previously Presented) A computer program product as recited in Claim 40, wherein the act of the tuning system storing comprises the following:

an act of the tuning system storing information that identifies a tuner in each of the plurality of service records in the memory; and

an act of the tuning system storing information that identifies a channel in each of the plurality of service records in the memory.

42.   (Previously Presented) A computer program product as recited in Claim 40, wherein the act of the tuning system storing comprises the following:

an act of the tuning system accumulating the plurality of service records in the memory.

43.   (Previously Presented) A computer program product as recited in Claim 42, wherein the act of the tuning system accumulating the plurality of service records comprises the following:

an act of at least one tuner of the tuning system monitoring at least one broadcast type to determine available channels in the at least one broadcast type.

44.   (Previously Presented) A computer program product as recited in Claim 40, wherein the act of the tuning system categorizing the plurality of service records into a plurality of service spaces comprises the following:

for each of the plurality of service records, an act of the tuning system storing a pointer associated with the service record in at least one of the service spaces.

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45.   (Previously Presented) A computer program product as recited in Claim 40, wherein the act of the tuning system categorizing the plurality of service records into a plurality of service spaces further comprises the following:

> an act of the tuning system creating a favorites service space for including pointers to service records that correspond to service records included in at least one other service space corresponding to a particular broadcast type, and such that a viewer can select the channel from the favorites service space.

46-50. (Canceled)

51.   (Previously Presented) A computer program product as recited in claim 40, wherein the additional tuning information includes information obtained from the program association table portion of the one or more digital data streams.

52.   (Canceled)

53.   (Previously Presented)   A method as recited in claim 23, wherein the user selection of the service space is made from a graphical user interface.

54.   (Previously Presented)   A computer program product as recited in claim 40, wherein the user selection of the service space is made from a graphical user interface.

55.   (Previously Presented)   A method as recited in claim 23, wherein the channel selection is made from a graphical user interface.

56.   (Previously Presented)   A computer program product as recited in claim 40, wherein the channel selection is made from a graphical user interface.

57.   (Previously Presented) A method as recited in claim 23, wherein the additional tuning information includes at least one of a program number, program identifier, and a bit stream type.

58.   (Previously Presented) A computer program product as recited in claim 40, wherein the additional tuning information includes at least one of a program number, program identifier, and a bit stream type.

59.　　(Previously Presented) In a tuning system for tuning to channels of a plurality of different broadcast types, a method of efficiently tuning to a channel of one of the broadcast types without a user having to designate the broadcast type, the method comprising the following:

a step for storing a plurality of service records, each service record containing tuning information for tuning to a channel of one of the plurality of broadcast types;

a step for categorizing the plurality of service records into a plurality of service spaces according to content type, wherein at least one service space includes a plurality of different service records corresponding to a plurality of different broadcast types;

displaying the service spaces to a user according to content type;

receiving a user selection of one of the service spaces;

upon receiving the selection of one of the service spaces, displaying information corresponding to service records of the selected service space that correspond to the same content type, wherein the corresponding service records include service records corresponding to different broadcast types;

a step for receiving a selection of one of the service records corresponding to the selected service space; and

a step for tuning to a channel corresponding to the selected service record using the tuning information provided in the service record.

60.　　(Previously Presented) The method according to Claim 59, wherein the step for storing comprises the following:

an act of storing information that identifies a tuner; and

an act of storing information that identifies a channel tunable by the tuner.

61.   (Previously Presented) The method according to Claim 59, wherein the step for storing comprises the following:

a step for accumulating the plurality of service records.

62.   (Previously Presented) The method according to Claim 61, wherein the step for accumulating the plurality of service records comprises the following:

an act of a tuner monitoring a broadcast to determine available channels.

63.   (Previously Presented) The method according to Claim 62, wherein the step for accumulating the plurality of service records further comprises the following:

for each of the available channels, an act of creating a service record for the available channel if a service record does not already exist for the available channel.

64.   (Previously Presented) The method according to Claim 63, wherein the step for accumulating the plurality of service records further comprises the following:

an act of including information that the tuner used to tune to the available channel in the service record.

65.   (Previously Presented) The method according to Claim 61, wherein the step of accumulating the plurality of service records comprises:

a specific act of providing a loader for each tuner in the tuning system;

a specific act of using the loader to monitor the channels tuned to by the corresponding tuner for a new channel;

a specific act of a master service control creating a new service record corresponding to the new channel; and

a specific act of including the tuning parameters used to tune to the new channel in the new service record.

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66.   (Previously Presented) The method according to Claim 59, wherein the step for categorizing the plurality of service records into a plurality of service spaces comprises the following:

for each of the plurality of service records, an act of storing a pointer associated with the service record in at least one of the service spaces.

67.   (Previously Presented) The method according to Claim 59, wherein the step for categorizing the plurality of service records into a plurality of service spaces comprises the following:

an act of creating a master service space that includes pointers to all of the plurality of service records.

68.   (Cancelled).

69.   (Previously Presented) The method according to Claim 59, wherein the step for categorizing the plurality of service records into a plurality of service spaces comprises the following:

an act of creating a favorites service space for including service records that correspond to desirable channels.

70.   (Previously Presented) The method according to Claim 59, wherein the step for tuning to a channel corresponding to the selected service record using the tuning information provided in the service record comprises the following:

an act of the tuning system tuning to a selected digital channel corresponding to the selected service record using the tuning information provided in the service record.

71.   (Previously Presented) In a tuning system for tuning to channels of a plurality of different broadcast types, a computer program product for implementing a method of efficiently tuning to a channel of one of the broadcast types without having to designate the broadcast type, the computer program product comprising:

a computer readable medium for providing computer program code means utilized to implement said method; and

wherein said computer program code means is comprised of executable code for implementing the method recited in claim 59.

72.   (Previously Presented) The computer program product according to Claim 71, wherein the executable code for implementing the step for storing further comprises executable code for implementing the following:

an act of the tuning system storing information that identifies a tuner; and

an act of the tuning system storing information that identifies a channel tunable by the tuner.

73.   (Previously Presented) The computer program product according to Claim 71, wherein the executable code for implementing the step for storing further comprises the executable code for implementing the following:

a step for accumulating the plurality of service records.

74.   (Previously Presented) The computer program product according to Claim 72, wherein the executable code for implementing the step for accumulating the plurality of service records comprises executable code for implementing the following:

an act of a tuner monitoring a broadcast to determine available channels;

for each available channel, an act of creating a service record for the available channel if a service record does not already exist for the available channel; and

for each available channel, an act of including information that the tuner used to tune to the available channel in the service record.

75-83   (Cancelled).

84.   (Currently Amended) A method as recited in claim 1 23, wherein at least one service record includes a time condition, which causes the service record to point to another service record when the time condition is unsatisfied.

85.   (Currently Amended) A method as recited in claim 1 23, further including an act of receiving input for pausing a program and subsequent to receiving additional input for resuming display of the programming, determining an appropriate channel to return to, and wherein the appropriate channel to return to is a different channel than the selected channel and that started at a different time than the selected channel.

86.   (Currently Amended) A method as recited in claim 1 23, wherein the method further includes receiving aggregate information corresponding to a plurality of different channels over a single channel.

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